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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/523,350	03/10/2000	Hiroyuki Kino	36856.283	5246

7590 12/26/2001

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EXAMINER

KIM, PAUL D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 12/26/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/523,350	Applicant(s) KINO ET AL.	
	Examiner Paul D Kim	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 5 and 10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: The limitation "the surface" in line 4 and "the axis" in lines 6-7 lack antecedent basis.

Claim 5: The limitation "after the plurality of flattened-ring compact bodies are stacked on each other in a vertical stacking" in lines 1-2 renders vague and indefinite. There is no such a step of stacking the plurality of flattened-ring compact bodies in the vertical stacking.

The limitation "the sides" in line 5 lacks antecedent basis.

Also, the recitation "a bar is attached to each of the sides of the stacked" in lines 4-5 renders vague and indefinite. Is the bar attached both left and right sides or top and bottom sides or all sides? Clarification is required.

Claim 11: The limitation "the surface" in line 3 lacks antecedent basis.

Claim 12: The limitation "the plurality of flattened-ring compact bodies" in line 2 lacks antecedent basis.

Claim 13: The limitation "the axis" in line 2 lacks antecedent basis.

Claim 15: The limitation "after the plurality of flattened-ring compact bodies are stacked on each other in a vertical stacking" in lines 1-2 renders vague and indefinite. There is no such a step of stacking the plurality of flattened-ring compact bodies in the vertical stacking.

The limitation "the sides" in line 5 lacks antecedent basis.

Also, the recitation "a bar is attached to each of the sides of the stacked" in lines 4-5 renders vague and indefinite. Is the bar attached both left and right sides or top and bottom sides or all sides? Clarification is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1, 2, 6-12 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art in view of Moorhead (US PAT. 5,935,722).

Fig. 5 of Applicant Admitted Prior Art teaches a method of manufacturing a flattened-ring magnetic core comprising steps of: providing a plurality of flattened-ring compact bodies (21) made of a magnetic material having holes (22); arranging the plurality of flattened-ring compact bodies that a axis of each of the flattened-ring compact bodies is arranged in vertically; and firing the flattened-ring compact bodies (lines 16-26 of page 1 in specification). However, Applicant Admitted Prior Art does not disclose a step of attaching a power to a surface of the flattened-ring compact bodies. Moorhead '722 teaches a process of making a laminated composite of magnetic alloy and ceramic powder comprising a step of attaching an inorganic powder (metal) on a laminated composite structure and a step of sintering the laminated composite structure to form a strong composite structure (col. 3, lines 23-58 and col. 5, lines 8-54). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art by a step of attaching an inorganic metallic powder on the surface of the composite structure as taught by Moorhead '7 for the purpose of performing a strongly bond together between magnetic cores without the strength and temperature limitations of organic adhesives.

Regarding claims 7-10 and 16-20: The size of the particles of the inorganic metallic powder and the shape of the flattened-ring compact bodies would have been an obvious matter of design choice to use the desirable materials and shapes.

6. Claims 3, 4, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art in view of Moorhead '722, and further in view of Nishimoto (US PAT. 6,096,966).

Applicant Admitted Prior Art, modified by Moorhead '722, teaches all the claimed invention exception of axes of the flattened-ring compact bodies are horizontally arranged. Fig. 8 of Nishimoto '966 shows a ring type of sintered core arranged horizontally the axes of the ring type of sintered cores for having a stable thermoelectric performance. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art, modified by Moorhead '722, by arranging flattened-ring compact bodies horizontally as taught by Nishimoto '966 for the purpose of maintaining a stable condition of the flattened-ring compact bodies and preventing falling the flattened-ring compact bodies off during the sintering process.

Regarding claims 4 and 14: It would have been obvious to modify after attaching process of the inorganic powder on the surface of the flattened-ring compact bodies of Applicant Admitted Prior Art, modified by Moorhead '722, by a stacking process the flattened-ring compact bodies prior to firing because the inorganic powder between the flattened-ring compact bodies could be prevented a chemical reaction causing breaking or creaking by a direct contact of the flattened-ring compact bodies.

7. Claims 5 and 15, as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art in view of Moorhead '722, and further in view of Shirahata (US PAT. 6,005,468).

Applicant Admitted Prior Art, modified by Moorhead '722, teaches all the claimed invention exception of a bar attached each side of the flattened-ring compact bodies. Fig. 16 (a) of Shirahata '468 shows a bar (64) attached each side of a flattened-ring compact bodies (2A,2B,2C) for holding the compact bodies. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art, modified by Moorhead '722, by attaching a bar to the flattened-ring compact bodies as taught by Shirahata '468 for the purpose of maintaining a stable condition of the flattened-ring compact bodies to prevent falling off during the manufacturing process.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mihara et al. (US PAT. 5,977,854), Rapoport et al. (US PAT. 5,923,236), Tuchinskiy (US PAT. 5,774,779), Tochio et al. (US PAT. 4,988,968) and Jaeckel (US PAT. 4,775,598) are cited to further show the state of the art with respect to method of manufacturing a magnetic core assembly.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D Kim whose telephone number is 703-308-8356.

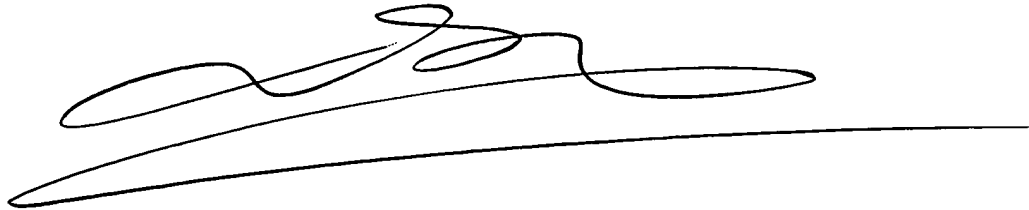
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The examiner can normally be reached on Monday-Friday between 6:00 AM to 2:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-9835 for regular communications and 703-305-9835 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5648.

pdk
December 17, 2001

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke at the bottom.

**PETER VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700**